

## CHARITY COMMISSION

Charities—British Ornithologists' Club.

The Charity Commissioners have made a Scheme for this charity. A copy can be obtained by sending a stamped addressed envelope to St Albans House, 57–60 Haymarket, London SW1Y 4QX, quoting reference number 279583–A1–LA.

5 March 1991

AMBERLEY M. MOORE  
Honorary Secretary

## CHARITY COMMISSION

In the matter of the Charity consisting of certain Trust Property held in connection with the British Ornithologists' Club, which Charity is regulated by trust deed dated the 27th February 1958; and  
In the matter of the Charities Act 1960

---

**THE CHARITY COMMISSIONERS FOR ENGLAND AND WALES HEREBY ORDER that the following Scheme be approved and established:—**

### SCHEME

Sub-clause (2) of clause 10 of the above-mentioned trust deed dated the 27th February 1958 shall have effect as if for the figure "50" therein there were substituted the figure "10".

Sealed by Order of the Commissioners this 21st day of January 1991.

## A new cisticola from west-central Africa

by C. Chappuis & C. Erard

Received 15 September 1990

In May and June 1972, in the course of one of his extensive field-trips for tape recording the calls and songs of West African birds, one of us (C. Chappuis) was working on the nominate and *guinea* races of the Red-pate Cisticola *Cisticola ruficeps* (Cretzschmar). He discovered that some populations of what seemed to be that species were characterized by a very peculiar song. Thus he collected two males of these enigmatic birds.

Considering, from his own experience, that *guinea* and the nominate subspecies have similar calls and songs, he concluded that these particular birds were something else.

At that time, Vielliard (1972) identified as *Cisticola ruficeps mongalla* Lynes a specimen he collected in 1970 at Bekao, southern Chad, in an area where Chappuis heard only the peculiar song, not the 'usual' one. So we considered that the problem could be solved by ranking *mongalla* as a species. Though comparisons of Chappuis' specimens with true *mongalla*

at the British Museum were not quite convincing, this solution was adopted in Chappuis (1974).

Thus the matter remained until one of us (C. Erard) discussed it with Dr R. B. Payne who was writing his paper on the use of bird songs in avian systematics (Payne 1986) and with Melvin A. Traylor, Jr, who was preparing the 11th volume of the *Check-list of Birds of the World* (Traylor 1986). It was then realized that Lynes (see Lynes 1930, Lynes & Sclater 1934) was familiar with the calls and songs of most if not all Red-pate *Cisticola* subspecies. Such a clear-cut difference in song would not have escaped the attention of someone so meticulous and sharp of hearing. This is why Traylor (1986: 97) writes that we are dealing with a sibling species of *C. ruficeps* which will require a name of its own. We propose to name it:

### ***Cisticola dorsti* sp. nov.**

The diagnosis, details of type etc. are given later, following the morphological and acoustical analysis, and distributional data, on which the decision is based.

### **Morphological analysis**

We compared the material referable to this intriguing *cisticola* (two males collected by Chappuis and one obtained by Vielliard) with specimens of *C. ruficeps* kept in Paris, Tring, Bruxelles, Tervuren, Chicago, Washington and New York. The task was not easy, because *dorsti* specimens being males in breeding dress, we had to rely only on birds of that sex and plumage. It soon became apparent that such birds are not common in collections, compared to non-breeding specimens. We will not describe the non-breeding plumages here; see Lynes (1930).

Before discussing the results of our morphological comparisons, it is necessary to review briefly the existing subspecies of *Cisticola ruficeps*; their distributions will not be described here (see White 1962, Traylor 1986).

*Cisticola ruficeps guinea* Lynes, 1930, differs from nominate *ruficeps* (Cretzschmar, 1830) by a much darker pigmentation of the upperparts, which reduces the contrast between cap and mantle, and even makes the white extremities of the tail-feathers appear not so bright and pure. It is also somewhat larger (see wing and tail lengths in Table 1).

*Cisticola ruficeps mongalla* Lynes, 1930, appears still darker, colder and greyer than *guinea*, with the back more or less dappled with smoke-grey.

*Cisticola ruficeps scotoptera* Lynes, 1930, is greyer than *ruficeps* and *guinea* but lighter than *mongalla*. The rust-red cap distinctly contrasts with the light smoke-grey mantle.

All these particulars concern birds in breeding dress. It may be noted here that these geographical races are even better distinguished by their non-breeding plumage. We should also mention that all these forms display a 'panel' on the folded wing (fringes of great wing-coverts and inner secondaries): light greyish-brown in *mongalla*, greyish-ochre in *scotoptera*, greyish-white and buff in *ruficeps*, light tawny in *guinea*. Furthermore, though they show some buffy or rusty wash on their

underparts, especially on the flanks, darker and more prominent on the thighs, they have a white vent.

### Colouration

Compared to breeding specimens of these four subspecies, the three *dorsti* specimens show a number of subtle colour differences:

- (1) they have buff not white under tail-coverts and vent, the colour extending onto the flanks. This pattern reduces the contrast between the thighs and the rest of the underparts.
- (2) the black and white pattern on the undersurface of the tail-feathers is less sharply defined. The light tip is smaller (less than 4 mm in length on the vane; see Table 1) and does not appear so pure white, being greyish-white. The black subterminal spot is not so deep in tone and is reduced, in that it has the same length (= width, when considered as forming a subterminal band; see Table 1), but does not extend so much onto the feather webs. The differences in tail pattern between *dorsti* and the various subspecies of *C. ruficeps* are reminiscent of those found between *C. chiniana* and *C. bodessa* (Erard 1974).
- (3) though light-coloured, the lores are not so white nor sharply contrasting on the sides of the face, which look more rusty than in all the others.
- (4) cap and mantle appear more rusty and the upperparts more uniform, and this has the effect of making the fringes on the wing less conspicuous.

### Measurements and proportions

Table 1 recapitulates the principal measurements of males in breeding dress belonging to the various subspecies of *C. ruficeps* and to *C. dorsti*.

We find no difference in bill and tarsus lengths, nor in the length of the subterminal black spot on the tail-feathers. Some minor differences do exist in wing length but they are statistically significant ( $P < 0.05$ , two-tailed Mann-Whitney U test) only between (i) *ruficeps* and *guinea*, (ii) *mongalla* and *guinea*, and (iii) *mongalla* and *dorsti*.

On the other hand, striking differences appear in tail lengths and in the size of the apical white spot on the tail-feathers. Specimens of *dorsti* clearly have a longer tail (both absolute and relative lengths; see Table 1 and Figure 1) and a smaller white extremity on the tail-feathers than all the specimens of *ruficeps*.

In order to synthesize these biometrical data, we ran a principal component analysis (PCA) based on log-transformed data on wing, tail, bill and tarsus lengths, and on lengths of white tip and of black subapical spot on the outer tail-feathers. We used only the 36 specimens for which we had complete sets of data: 6 nominate *ruficeps*, 7 *mongalla*, 17 *guinea*, 3 *scotoptera* and the 3 *dorsti*.

Table 2 and Figure 2 give the results of this analysis. Clearly, tail length and pattern are important characters to distinguish *dorsti* from all subspecies of *C. ruficeps*.

TABLE 1

Measurements (in mm) of breeding males of the various subspecies of *Cisticola ruficeps* and of *C. dorsti* sp. n.

	N	Wing	Tail	Bill	Tarsus	White	Black
<i>C. r. ruficeps</i>	11	54.6±2.2	38.1±2.0	13.6±0.4	20.3±0.7	4.7±0.5	3.8±0.6
<i>C. r. guinea</i>	24	56.5±1.5	39.6±1.0	13.3±0.6	20.5±0.7	4.9±0.4	3.8±0.7
<i>C. r. mongalla</i>	9	54.2±0.9	38.1±1.1	13.2±0.3	20.2±0.5	5.5±0.8	3.2±0.6
<i>C. r. scotoptera</i>	4	55.7±2.1	39.8±1.1	13.6±0.4	20.1±0.7	6.2±0.2	3.5±0.0
<i>C. dorsti</i>	3	57.0±0.5	43.0±0.5	13.3±0.5	21.3±1.2	3.7±0.5	3.7±0.5

Note. For every entry mean ± standard deviation are given. 'White' and 'black' designate the width of the white apex and of the black subterminal band on the outer tail-feathers; N=6 for *ruficeps*, 19 for *guinea*, 7 for *mongalla*, 3 for *scotoptera* and *dorsti*.

TABLE 2  
Eigenvalues of principal components

Component number	Percent of variance	Cumulative percentage
1	64.87	64.87
2	29.22	94.09
3	2.28	96.37
4	1.86	98.23
5	1.47	99.70
6	0.30	100.00

TABLE 3

Discriminant analysis for the various subspecies of *Cisticola ruficeps* and *C. dorsti*

	Discriminant functions				
	1	2	3	4	
Eigenvalue	3.58	0.65	0.46	0.08	
Relative percentage	74.93	13.66	9.64	1.77	
Canonical correlation	0.88	0.62	0.56	0.27	
Standardized discriminant function coefficients	wing	0.28	0.92	0.92	0.40
	tail	-1.00	1.00	-0.03	-0.18
	bill	0.18	0.09	0.06	-0.65
	tarsus	-0.53	-0.40	0.08	0.57
	white	0.64	0.59	0.46	0.19
	black	0.34	-0.09	0.18	-0.49

Using the same sets of measurements, we performed a discriminant analysis (DA) (Table 3 and Figure 3), from which it can be concluded that specimens of *dorsti* are biometrically separate from all the others.

Other PCAs and DAs suggest that the multivariate distinction between *dorsti* and the others may be much clearer if one considers specimens from Nigeria, Cameroon and Chad, that is from the potential area of

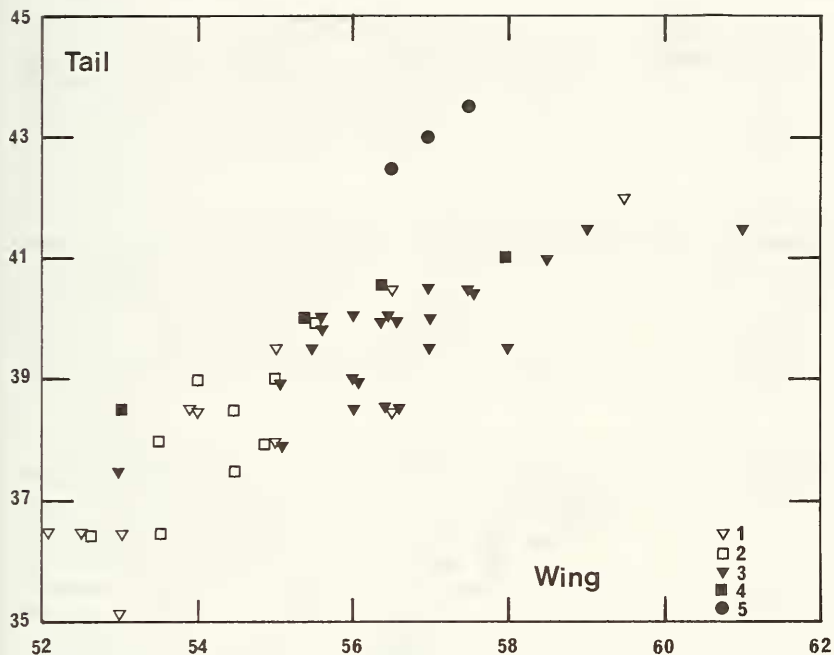


Figure 1. Plot of tail versus wing for breeding males of the various subspecies of *Cisticola ruficeps* and *C. dorsti*. Measurements are in mm. 1 = *C. r. ruficeps*, 2 = *C. r. mongalla*, 3 = *C. r. guinea*, 4 = *C. r. scotoptera*, 5 = *C. dorsti*.

sympatry of *dorsti* with either *guinea* or nominate *ruficeps*. The results of this second series of analyses are based only on the 12 specimens for which we had a complete set of the measurements quoted above. They require confirmation based on a larger number of specimens.

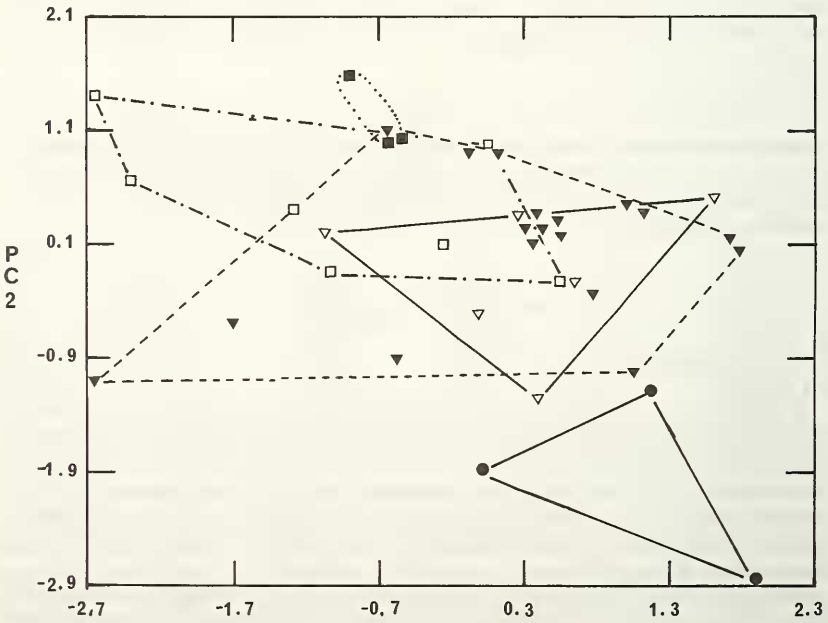
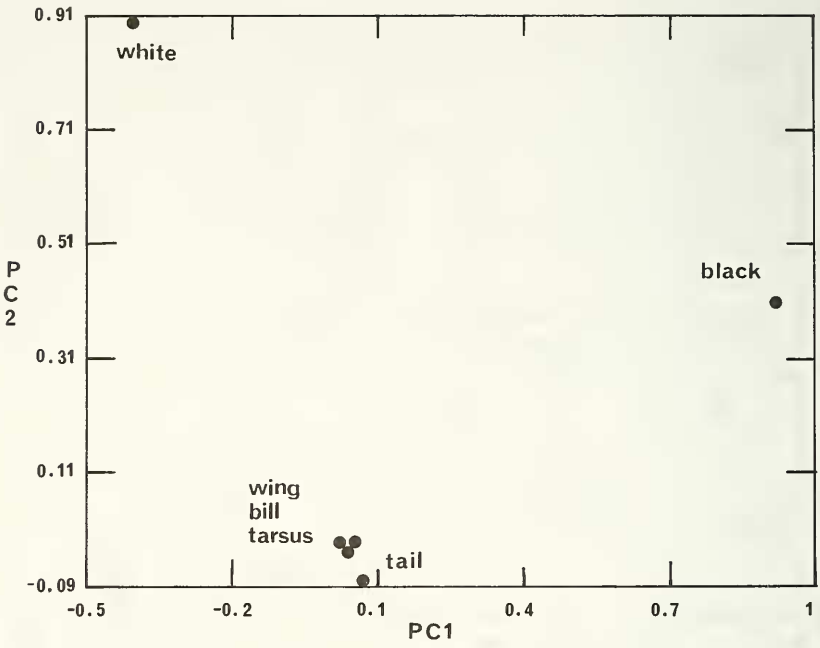
### Bioacoustic analysis

#### *Cisticola ruficeps*

##### (1) Song

Generally, a singing bout includes two song-types (A and B) in succession. A-songs consist of a long note slowly modulated in frequency (sometimes replaced by a short vibrant note of a complex tonal structure) introducing a phrase of a progressively falling overall tonality. This phrase consists of alternatively rising and falling notes. A-songs vary in length from 0.55 to 1.1 sec (Fig. 4A). They are regularly repeated, then replaced by B-songs.

B-songs also are phrases consisting of the same kind of notes as in A-songs but their overall tonality rises, they rarely begin with an isolated note (Fig. 4B), and last 0.4 to 0.8 sec.



These two song-types sound quite different. A-songs are roughly reminiscent of some whistles of *Dendrocygna viduata*. B-songs are similar to some phrases of *Cisticola cinereola* or *C. lateralis*.

As far as pitch is concerned, *C. ruficeps* uses frequencies of 4–5 kHz for territorial advertising, but 5.5–6 kHz in conflict situations.

## (2) Call-notes

Most are notes with a sharply and rapidly modulated frequency. Figure 4D illustrates an extreme case of variation from 1 to 8 kHz in 25 milliseconds. These notes are grouped either in so rapid a rhythm that they sound like buzzes (Fig. 4E), or in a slower rhythm sounding like rattles (Fig. 4F); but they may also be grouped so as to constitute a regularly repeated motif (Fig. 4D). There is also a long weakly modulated call-note which is in fact the note usually introducing the A-song type (Fig. 4C).

## *Cisticola dorsti*

Though descriptions presented here are based on sonographic analysis of only two individuals, our impression that vocalisations of *C. dorsti* are less rich and varied than those of *C. ruficeps* is also based on a series of other individuals heard in the field, and in some cases tape-recorded (but unsuitable for spectrographic analysis).

## (1) Song

There is only one type: a monotonous trill often introduced by a short vibrant note and followed by a regular repetition (4–6 times) of a simple motif, emphasized at the end and falling in pitch (Fig. 5B). The introductory note (Fig. 5A) is analogous to the corresponding note of *C. ruficeps* (Fig. 4B), and is practically the only acoustic signal common to both species.

The trill can be emitted with two different rhythms: a slow one of 10 motifs per sec (Fig. 5A), and a rapid one of 14.7–17.5 motifs per sec (Fig. 5B), used during territorial conflict. The mean pitch is the same for trills of both rhythms, in contrast to *C. ruficeps* which, as mentioned above, uses different frequencies in different behavioural contexts.

## (2) Call-notes

The commonest call-note we heard was emitted in conflict situations. It is a long, high-pitched and falling note, slowly modulated in frequency (Fig. 5C), whereas the analogous note of *C. ruficeps* is a rising one (Fig. 4C), scarcely used as a distinct call.

Only once did we hear a repeated motif, made up of notes sharply and rapidly modulated from 3.5 to 8.5 kHz (Fig. 5D), analogous to *C. ruficeps* motifs (Fig. 4D).

---

Figure 2. Principal component analysis (PC1 × PC2) based on measurements of breeding males of the various subspecies of *Cisticola ruficeps* and *C. dorsti*. Lengths of wing, tail, bill and tarsus were used, along with width of the white apical and black subterminal bands on the outer tail-feathers (log-transformed data). Upper graph: variables placed according to their eigenvalues on the first two principal components. Lower graph: location of the individuals. For symbols, see Fig. 1.

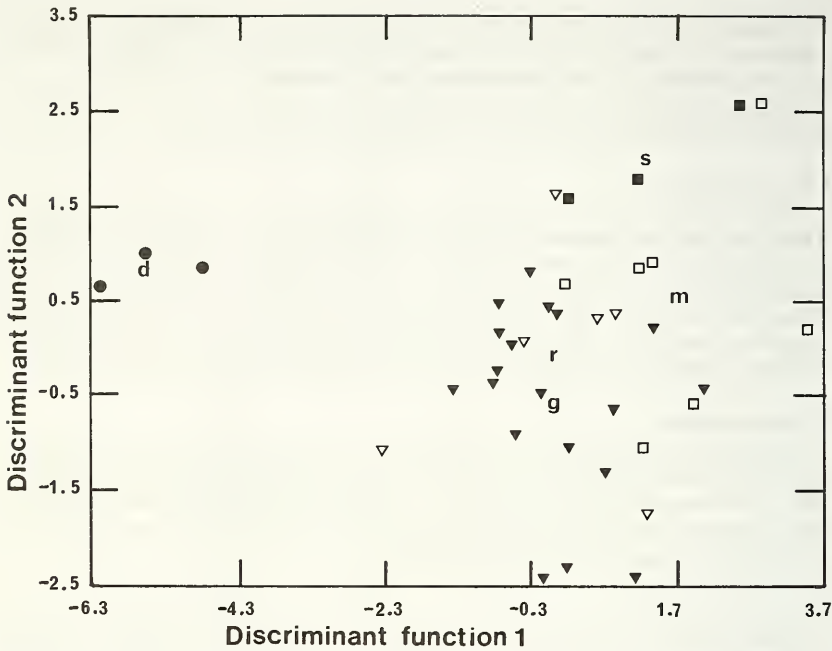


Figure 3. Discriminant analysis for the breeding males of the various subspecies of *Cisticola ruficeps* and *C. dorsti*. Letters locate the group centroids for: d = *C. dorsti*, g = *C. r. guinea*, m = *C. r. mongalla*, r = *C. r. ruficeps*, s = *C. r. scotoptera*. For symbols, see Fig. 1.

### Conclusion

In spite of a thorough analysis of the material we have on hand, we find almost no common element to both *C. ruficeps* and *C. dorsti*. This was indeed the impression we had in the field. It may be rather surprising that these two morphologically very similar birds are acoustically so different, so one might be tempted to see in this situation the indication of a rather ancient evolutionary divergence.

### Habitat

Many authors (e.g. Lynes 1930, Elgood 1982) consider that *Cisticola ruficeps* is a bird of grassy thorn-scrub, or grassy open areas with scattered trees or bushes. So it is interesting to note here that in our experience, two distinct species were suspected in the field not only because two separate vocal repertoires were heard but also (and perhaps especially) because these acoustical differences were associated with different habitat preferences.

Short-phrase songs were emitted by birds perched 5–8 m above ground, on top of small trees scattered among poor grasslands on sandy ground, with scanty bushes, i.e. a sahel-like landscape. These birds were *ruficeps*, which in this habitat lives alongside the Desert *Cisticola C.*



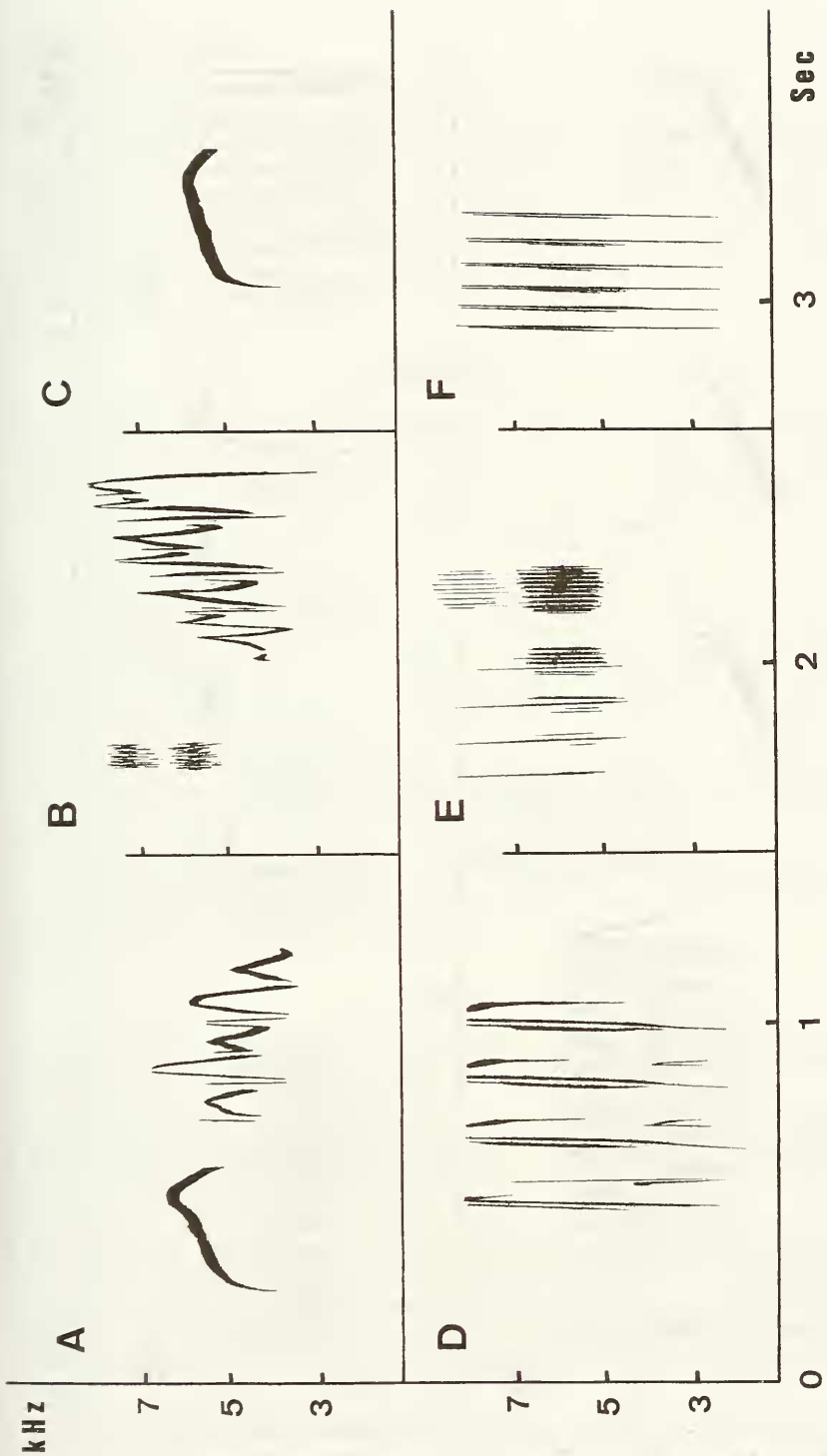


Figure 4. *Cisticola rupestris*. Sonograms from recordings by C. Chappuis (wide band filter, 300 Hz). A: A-song type with phrases falling in pitch. B: B-song type with phrases rising in pitch (here the high frequencies indicate an aggressive behaviour). C, D, E and F: four types of call-notes.

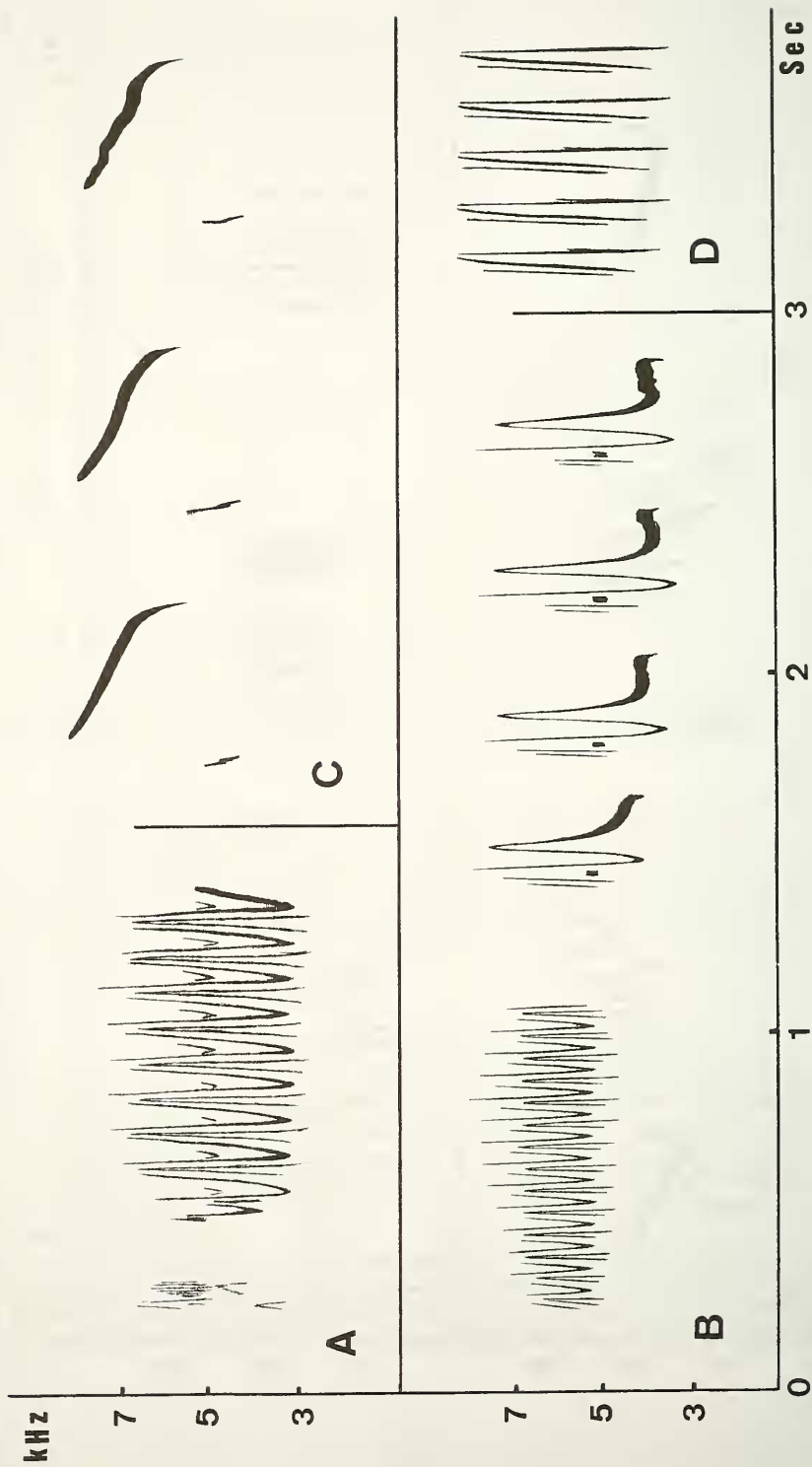


Figure 5. *Cisticola dorsti*. A: song with slow rhythm. B: song with fast rhythm. C and D: two types of call-notes.

*aridula*, another species favouring this type of environment and a possible ecological competitor.

On the other hand, trill-songs (i.e. *dorsti* songs) were emitted by birds perched 1–2 m above ground on top of stems or small bushes in grass steppe with clumps of thicket or even an important shrub layer; cassava plantations or old-fields are also inhabited by *dorsti*.

In fact, this simultaneous duality of songs and habitats could have been discerned in some previous descriptions, for instance in Mackworth-Praed & Grant (1973: 349).

### Distribution

At present, the acoustically peculiar *C. dorsti* is known from north-western Nigeria around Gusau (12°12'N, 6°40'E), from northern Cameroon near Mokolo (10°49'N, 13°54'E), in the Kapsiki range, and from southern Chad around Bekao (7°51'N, 15°58'E) and Baïbokoum (7°46'N, 15°43'E). All these records were obtained in May and June 1972.

In the same areas and at the same time, birds with typical *C. ruficeps* songs were recorded in northeastern Nigeria at Maiduguri (11°53'N, 13°16'E), in northern Cameroon at Mora (11°02'N, 14°07'E), a locality also in the Kapsiki range but at a lower altitude than *dorsti*, and in southern Chad north of N'Djamena (12°10'N, 14°59'E) and Moundou (8°35'N, 16°01'E). A specimen from Mora is *C. r. guinea*, others from the latter two Chadian localities are respectively nominate *ruficeps* and *guinea*.

We have also examined breeding specimens of *guinea* from Nigeria (Maiduguri area, Kafanchan and Jos plateau), northern Cameroon (Koza, Maroua, south of Garoua) and southern Chad (between N'Djamena, formerly Fort Lamy, and Sahr, formerly Fort Archambault).

Thus *dorsti* and *guinea* can be considered as sympatric though they have not yet been found side by side. A more detailed altitudinal analysis of their distribution would be most useful.

### Conclusion

These analyses led us to conclude that *C. dorsti*, being acoustically and morphologically peculiar, constitutes a single species distinct from *C. ruficeps*.

We dedicate this species to Professor Jean Dorst, Membre de l'Institut, past Director of the Muséum National d'Histoire Naturelle, who headed the Laboratoire de Zoologie (Mammifères et Oiseaux) for almost thirty years.

*Diagnosis.* Very similar to the Red-pate Cisticola *Cisticola ruficeps* (Cretzschmar) from which it can be distinguished by its buff vent and under tail-coverts, and its longer tail, with a greyer, less white, and narrower terminal band on the under-surface of the tail-feathers. In the present state of knowledge, the diagnosis is only applicable to birds in breeding dress. The non-breeding plumage, if present, remains to be studied.

*Type.* Male, tape-recorded and collected near Mokolo (10°49'N, 13°54'E), northern Cameroon, 7 June 1972, by C. Chappuis. Deposited in Muséum National d'Histoire Naturelle, Paris (C.G. 1977-58).

*Measurements of type.* Wing 56.5 mm, tail 42.5 mm, bill 13 mm, tarsus 21.5 mm.

*Original series.* The type plus two other males from southern Chad, one from Baïbokoum, tape-recorded and collected by C. Chappuis, 13 June 1972 (C.G. 1979-649), one from Bekao, collected by J. Vielliard, 2 August 1970 (C.G. 1972-79).

#### Acknowledgements

We are grateful to the curators who provided all facilities to examine the collections at the American Museum of Natural History in New York, the British Museum (Natural History) in Tring, the Field Museum of Natural History in Chicago, the Institut Royal des Sciences Naturelles de Belgique in Bruxelles, the Koninklijk Museum voor Midden-Africa in Tervuren, and the National Museum of Natural History (Smithsonian Institution) in Washington. The work of C. Erard in the U.S. museums was possible thanks to a grant from the Chapman Fund of the American Museum of Natural History.

#### References:

- Chappuis, C. 1974. Illustration sonore de problèmes bioacoustiques posés par les oiseaux de la zone éthiopienne. *Alauda* 42: 467-500.
- Elgood, J. H. 1982. *The Birds of Nigeria*. B.O.U. Check-list no. 4. British Ornithologists' Union.
- Erard, C. 1974. The problem of the Boran *Cisticola*. *Bull. Brit. Orn. Cl.* 94: 26-38.
- Lynes, H. 1930. Review of the genus *Cisticola*. *Ibis* (12)6, Suppl.: 1-673.
- Lynes, H. & Sclater, W. L. 1934. Lynes-Vincent tour in central and west Africa in 1930-31. Part II. *Ibis* (13)4: 1-51.
- Mackworth-Praed, C. W. & Grant, C. H. B. 1973. *Birds of West Central and Western Africa*. Vol. 2. Longmans, London.
- Payne, R. B. 1986. Bird songs and avian systematics. *Current Orn.* 3: 87-126.
- Traylor, M. A., Jr. 1986. Genus *Cisticola* Kaup. Pp. 84-125 in E. Mayr & G. W. Cottrell (eds), *Check-list of Birds of the World*. Vol. 11. Museum of Comparative Zoology, Harvard.
- Vielliard, J. 1972. Données biogéographiques sur l'avifaune de l'Afrique centrale. II. *Alauda* 40: 63-92.
- White, C. M. N. 1962. A check list of the Ethiopian Muscicapinae (Sylviinae). Part II. *Occas. Papers Natl Mus. South. Rhodesia* no. 26B: 653-694.

*Addresses:* C. Chappuis, Les Chardonnerets, Lotissement du Fer à Cheval, La Bouille, 76530 Grand-Couronne, France. C. Erard, Laboratoire de Zoologie (Mammifères & Oiseaux), Muséum National d'Histoire Naturelle, 55 rue Buffon, 75005 Paris, France.

© British Ornithologists' Club 1991

## Breeding seabirds of Rapa (Polynesia): numbers and changes during the 20th century

by Jean-Claude Thibault & Albert Varney

Received 13 September 1990

The island of Rapa and its satellite islets, situated in the subtropical zone, have an assemblage of breeding seabirds that differs from the rest of